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CURRENT SERIAL RECORDS

WATER SUPPLY OUTLOOK and FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS for UTAH

**UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE,
and
STATE ENGINEER of UTAH**

In cooperation with U.S. Forest Service, Bureau of Reclamation,
Utah Fish and Game Dept., Utah Agricultural Experiment Station,
U.S. National Park Service, U.S. Geological Survey; and other
Federal, State, and private organizations.

||||||| AS OF |||||
FEB. 1, 1963

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Water Supply Outlook Reports:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from advance estimates of the streamflow.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, up to 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

Streamflow forecasts are obtained by a comparison of total or maximum snow accumulation, as measured by snow water equivalent, to the subsequent spring and summer or snowmelt season runoff over a period of years. The snow water equivalent measured in selected snow courses provides most of the index to the streamflow forecast for the following season. More accurate forecasts are usually obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast procedure. Early season forecasts assume average climatic conditions through the snowmelt season.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions. Soil Conservation Service Reports may be secured from Water Supply Forecasting Unit, Soil Conservation Service, P.O. Box 4170, Portland 8, Oregon.

PUBLISHED BY SOIL CONSERVATION SERVICE

<u>REPORTS</u>	<u>ISSUED</u>	<u>LOCATION</u>	<u>COOPERATING WITH</u>
RIVER BASINS			
WESTERN UNITED STATES	MONTHLY (FEB.-MAY)	PORTLAND, OREGON	ALL COOPERATORS
STATES			
ALASKA	MONTHLY (MAR.-MAY)	PALMER, ALASKA	ALASKA S.C.D.
ARIZONA	SEMI-MONTHLY (JAN. 15 - APR. 1)	PHOENIX, ARIZONA	SALT R. VALLEY WATER USERS ASSOC. ARIZ. AGR. EXP. STATION
COLORADO AND NEW MEXICO	MONTHLY (FEB.-MAY)	FORT COLLINS, COLORADO	COLO. STATE UNIVERSITY COLO. STATE ENGINEER N. MEX. STATE ENGINEER
IDAHO	MONTHLY (JAN.-JUNE)	BOISE, IDAHO	IDAHO STATE RECLAMATION ENGINEER
MONTANA	MONTHLY (JAN.-JUNE)	BOZEMAN, MONTANA	MONT. AGR. EXP. STATION
NEVADA	MONTHLY (JAN.-MAY)	RENO, NEVADA	NEVADA DEPT. OF CONSERVATION AND NATURAL RESOURCES - DIVISION OF WATER RESOURCES
OREGON	MONTHLY (JAN.-JUNE)	PORTLAND, OREGON	OREG. STATE UNIVERSITY OREGON STATE ENGINEER
UTAH	MONTHLY (JAN.-JUNE)	SALT LAKE CITY, UTAH	UTAH STATE ENGINEER
WASHINGTON	MONTHLY (FEB.-JUNE)	SPOKANE, WASHINGTON	WN. STATE DEPT. OF CONSERVATION
WYOMING	MONTHLY (FEB.-JUNE)	CASPER, WYOMING	WYOMING STATE ENGINEER

PUBLISHED BY OTHER AGENCIES

<u>REPORTS</u>	<u>ISSUED</u>	<u>AGENCY</u>
BRITISH COLUMBIA	MONTHLY (FEB.-JUNE)	WATER RIGHTS BR., DEPT. OF LANDS, FORESTS AND NATURAL RESOURCES, PARLIAMENT BLDG., VICTORIA, B.C., CANADA
CALIFORNIA	MONTHLY (FEB.-MAY)	CALIF. DEPT. OF WATER RESOURCES, P.O. BOX 388, SACRAMENTO, CALIF.

WATER SUPPLY OUTLOOK
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
for
UTAH

FEBRUARY 1, 1963

Report prepared by

GREGORY L. PEARSON, Snow Survey Supervisor

and

GARRY DINSDALE, Asst. Snow Survey Supervisor

SOIL CONSERVATION SERVICE
SNOW SURVEY SECTION
222 SOUTH WEST TEMPLE
SALT LAKE CITY 1, UTAH

Issued by

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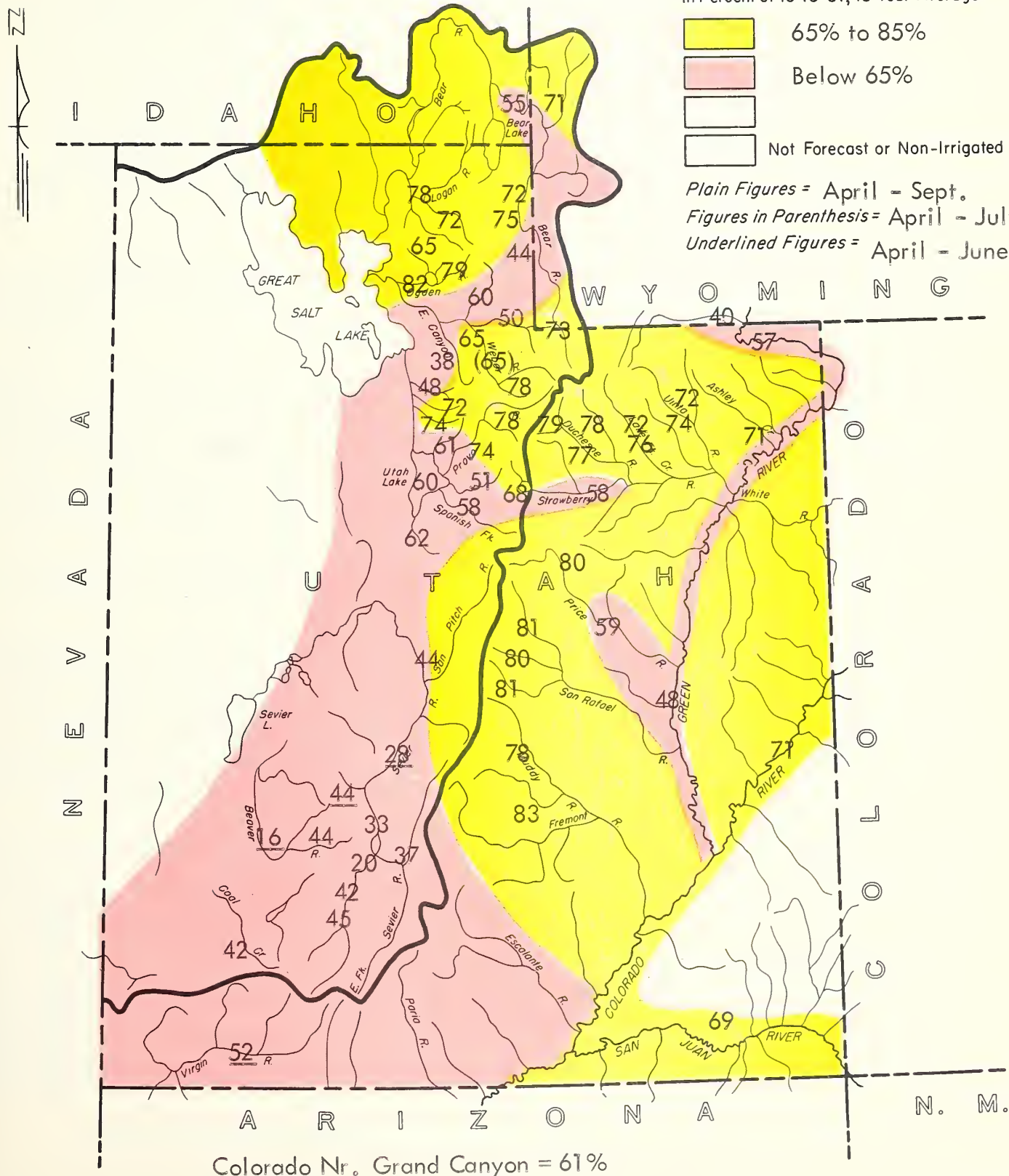
Based on Snow Surveys Made on UTAH and BEAR RIVER WATERSHEDS

Approximate Date



☐ Not Forecast or Non-Irrigated

Underlined Figures = April - June



WATER SUPPLY OUTLOOK

as of

FEBRUARY 1, 1963

* Severe water shortages are now in prospect for the Sevier, Virgin *
 * and Beaver rivers, and adjacent smaller watersheds. Here, reser- *
 * voir storage and expected streamflow is comparable to 1960 on the *
 * Sevier river and 1961 on Beaver river. Forecasts range from 16% *
 * to 52% of average. Water users served by Utah Lake, Strawberry *
 * reservoir, streams of Utah county other than the Provo river, and *
 * other low elevation watersheds of northern Utah not having reser- *
 * voir storage facilities have a poor outlook. Forecasts here range *
 * from about 35% to 65%. Utah Lake has 43% average storage, Straw- *
 * berry reservoir 37%. About 70% to 80% is forecast for the remain- *
 * ing higher elevation streams of central and northern Utah. *

Snow surveys completed just before the month end storm showed that Utah as a whole was faced with the worst water supply outlook in the history of the state - for this time of year.

Ordinarily the effect of storms coming just at the conclusion of the surveys are disregarded. Such storms give hope that the following month will be average in snow and rainfall, so that forecasts will not have to be lowered on the next report. This time, however, late surveys made it plain that this storm was not just an ordinary one. Re-surveys of enough key snow courses and mountain raingages were made to evaluate the effect on the water outlook.

Unfortunately for southwestern Utah, the effect of the storm was essentially negligible on the water outlook from Salina Creek southward.

At the Buck Flat snow course (elevation 9400 ft.) near Ferron reservoir, where they had driven in a jeep just before the storm, the snow surveyors found only 1.2 in. water in 8 inches snow. After the storm they found 9.4 inches water in 32 inches snow. The water increase of 8.2 inches is two and a third times the amount ordinarily picked up during the entire month of February. At Mammoth Ranger Station on the Price river the snow course also picked up 8.2 inches water, but here the increase was 164% of the normal February amount.

Farther north, the Daniels-Strawberry Summit snow course southeast of Heber City picked up 6.5 inches water which is 192% of the normal February increase. Here, although there was rain on snow, the snow absorbed practically all of it, since the raingage catch for the same time was 6.60 inches.

On the Weber and Provo rivers and the streams of the high Uintas eastward to Ashley Creek, the snow water increase varied from average to 20% above the average for February. In northern Utah, the raingages at Tony Grove Ranger Station and Garden City Summit on the Logan river caught 6.93 inches and 6.35 inches of water, respectively. These represent increases of over 200%.

Since there was still the whole month of February in which to get storms, the forecasts all had to be revised. Examples of improvement in the forecasts due to this one storm alone are as follows. The first number represents the expected runoff percentage for each stream prior to the storm, while the second number is the revised forecast percentage: Logan river 49% to 78%; Pineview reservoir inflow 54% to 82%; Strawberry reservoir inflow 16% to 68% and Scofield reservoir inflow 25% to 80%.

In spite of the great improvement, all areas still have the prospect of below average streamflow.

In southwestern areas where the storm was not sufficient to materially change the outlook, we find forecasts of about 15% to 55% on the Sevier, Virgin and Beaver rivers, and adjacent smaller watersheds.

About 80% of average is expected from the San Pitch, San Rafael and Price rivers. Forecasts for other high elevation streams such as those of the Uintah Basin, the upper Weber, Provo, Bear, Ogden and Logan rivers, Farmington Creek and the Cottonwood Creeks near Salt Lake vary from about 70% to 80%. Forecasts range from about 35% to 65% at lower elevations of the larger rivers and for the low elevation watersheds. Examples are the Bear river at Woodruff and Harer, Weber at Wanship and Coalville, East Canyon Creek near Morgan, Chalk Creek at Coalville, Lost Creek near Croydon, Little Bear river near Paradise, and the lower elevation streams near Salt Lake, Tooele and Farmington.

The rain and warm, turbulent winds associated with the month end storm removed much of the low elevation snowpack. An example of this was seen at the Sagebrush Flat snow course (elevation 6300 ft.) on the South Fork Ogden river. On January 29th during the first part of the storm, the snow surveyors found 12 inches snow with 1.2 inches water. On February 1 a re-survey found 2 inches snow with the same amount of water as on the 29th. However, the raingage had caught 4.65 inches of rain, all of which had disappeared. Since the mountain soils are frozen from $1\frac{1}{2}$ to 2 feet deep, much of this water ran off, contributing to the heavy streamflow.

Observation indicated that very little water was coming from above 7,000 ft. elevation. The runoff that took place has kept the outlook for next summer from improving as much on lower watersheds, as it has on the higher ones. If the present warm weather continues very long during February, it will add to the removal of the lower snows. This will leave just that much less to come during the spring and summer months.

UTAH STREAMFLOW FORECASTS ^a (1,000 Ac. Ft.)

FORECAST POINT	FORECAST THIS YEAR	FORECAST PERIOD	LAST YEAR	AVERAGE ^b	THIS YEAR AS PERCENT OF AVERAGE
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GREAT BASIN

BEAR RIVER SYSTEM

Bear nr Ut-Wyo.State Line	90	Apr-Sept	142	123	73
Bear nr Woodruff	58	Apr-Sept	134	133	44
Woodruff Crk nr Woodruff, Ut.	14.5	Apr-Sept	- -	19.4*	75
Big Crk nr Randolph, Ut.	7	Apr-Sept	- -	9.7*	72
Bear nr Randolph	23	Apr-Sept	104	115 *	20
Smith's Fork nr Border, Wyo.	85	Apr-Sept	142	119	71
Bear at Harer, Idaho	165	Apr-Sept	- -	299	55
Cub River nr Preston, Idaho	--	Apr-Sept	- -	52 *	--
Little Bear nr Paradise	30	Apr-Sept	55	46	65
Logan nr Logan (1)	112	Apr-Sept	140	143	78
Blacksmith Fork nr Hyrum (2)	48	Apr-Sept	64	67	72

WEBER-OGDEN RIVERS

Weber nr Oakley	105	Apr-Sept	148	134	78
Wanship Reservoir Inflow(3)	85	Apr-July	- -	130 *	65
Weber nr Coalville (4)	93	Apr-Sept	155	143	65
Chalk Crk at Coalville	21	Apr-Sept	33	42	50
Lost Crk nr Croydon, Ut.	12	Apr-Sept	14.8	19.9	60
East Canyon Crk nr Morgan (5)	11	Apr-Sept	22.2	28.7	38
So. Fork Ogden nr Huntsville	55	Apr-Sept	67	70	79
Pineview Reservoir Inflow (6)	116	Mar-July	142	142	82

PROVO RIVER & UTAH LAKE

Strawberry Reservoir Inflow (7)	38	Apr-Sept	- -	56	68
Spanish Fork at Thistle	25	Apr-Sept	- -	43	58
Payson Creek nr Payson	5	Apr-Sept	- -	8.0*	62
Hobble Crk nr Springville	12	Apr-Sept	- -	23.7*	51
Provo nr Hailstone (8)	90	Apr-Sept	- -	116 *	78
Provo at Vivian Park (9)	118	Apr-Sept	- -	159	74
American Fork nr American Fork	22	Apr-Sept	- -	36	61
Utah Lake Inflow	190	Apr-Sept	299	317	60

JORDAN RIVER & SALT LAKE

Little Cottonwood Crk nr SLC	29	Apr-Sept	44	39	74
Big Cottonwood nr SLC	29	Apr-Sept	44	40	72
Parley's Crk nr SLC	7	Apr-Sept	11.9	14.7	48

(1) Includes U.P.& L. Co. tailrace and Logan, Hyde Park & Smithfield Canal. (2) Above Utah Power & Light Company's dam. (3) Observed flow Weber River near Wanship, Utah, plus change in storage in Wanship Reservoir, plus diversion by Weber-Provo Canal. (4) Includes diversion by Weber-Provo Canal and change in storage in Wanship Reservoir. (5) Observed flow plus change in storage in East Canyon Reservoir. (6) Inflow record as computed by U.S. Bureau of Reclamation. (7) Change in storage plus diversion thru Strawberry tunnel. (8) Observed flow minus diversions thru Duchesne tunnel and Weber-Provo Canal. (9) Observed flow plus change in Storage in Deer Creek reservoir, minus diversions thru Duchesne tunnel & Weber-Provo Canal, plus diversion thru Salt Lake Aqueduct.

UTAH STREAMFLOW FORECASTS ^a (1,000 Ac. Ft.)

FORECAST POINT	FORECAST THIS YEAR	FORECAST PERIOD	LAST YEAR	AVERAGE ^b	THIS YEAR AS PERCENT OF AVERAGE
<u>SEVIER RIVER</u>					
Sevier at Hatch	14	Apr-June	- -	35	40
	22	Apr-Sept	- -	49	45
Sevier nr Circleville	18	Apr-Sept	- -	43 *	42
Sevier nr Kingston	4	Apr-June	- -	24.6	16
	6	Apr-Sept	- -	29.7	20
East Fork Sevier nr Kingston(10)	4	Apr-June	- -	17.2	23
	8	Apr-Sept	- -	21.6	37
Sevier below Piute Dam (11)	17	Apr-Sept	- -	51	33
Clear Crk nr Sevier(abv. Div.)	7	Apr-June	- -	15.9*	44
Inflow					
Kingston to Vermillion Dam	13	Apr-June	- -	47	28
Vermillion Dam to Gunnison	38	Mar-June	- -	63	60
Salina Crk at Salina (12)	1.7	Apr-June	- -	9.4*	18
Sevier nr Gunnison a	28	Apr-Sept	54	64	44

BEAVER RIVER

Beaver nr beaver	11	Apr-June	19.9	22.3	49
	13	Apr-Sept	27.5	29.4	44
Rockyford Reservoir Inflow(13)	1.5	Apr-June	- -	9.2	16

COAL CREEK

Coal Crk nr Cedar City	7	Apr-Sept	- -	16.6	42
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COLORADO RIVER BASIN

GREEN RIVER TRIBUTARIES IN UTAH

FLAMING GORGE TO DUCHESNE RIVER

Henry's Fork at Linwood	16	Apr-Sept	- -	40	40
Ashley Creek nr Vernal	37	Apr-Sept	- -	59	71

DUCHESNE RIVER

Duchesne at Provo River					
(Trail nr Hanna)	33	Apr-Sept	- -	42*	79
Duchesne nr Tabiona (14)	95	Apr-Sept	- -	124	77
Rock Crk nr Mtn. Home	85	Apr-Sept	- -	109	78
Strawberry at Duchesne	46	Apr-Sept	- -	79	58
Lakefork below Moon Lake (15)	59	Apr-Sept	- -	78	76
Uinta nr Neola	75	Apr-Sept	- -	101	74
Whiterocks nr Whiterocks	48	Apr-Sept	91	67	72
Yellowstone nr Altonah	57	Apr-Sept	- -	79 *	72

(10) Observed flow plus change in storage in Otter Creek Reservoir. (11) Observed flow plus change in storage in Otter Crk & Piute Reservoirs. (12) Gage is below diversions near Salina. (13) Observed flow at Rockyford Dam, corrected for change in storage in Rockyford Reservoir. (14) Observed flow plus diversion through Duchesne Tunnel. (15) Observed flow plus change in storage in Moon Lake Reservoir.

UTAH STREAMFLOW FORECASTS ^a (1,000 Ac. Ft.)

FORECAST POINT	FORECAST THIS YEAR	FORECAST PERIOD	LAST YEAR	AVERAGE ^b	THIS YEAR AS PERCENT OF AVERAGE
<u>PRICE RIVER</u>					
Gooseberry Crk nr Scofield	10.5	Apr-Sept	— —	12.6	83
Scofield Reservoir Inflow (16)	32	Apr-Sept	— —	40	80
Price nr Heiner (16)	41	Apr-Sept	— —	70	59
<u>SAN RAFAEL RIVER</u>					
Huntington Crk nr Huntington	48	Apr-Sept	— —	59	81
Cottonwood Crk nr Orangeville	47	Apr-Sept	— —	59	80
Ferron Crk nr Ferron	35	Apr-Sept	— —	43 *	81
<u>MUDDY RIVER</u>					
Muddy Creek nr Emery	18	Apr-Sept	— —	23.1*	78
Ivie Creek Abv. Div. nr Emery	1.5	Apr-Sept	— —	1.8*	83
<u>VIRGIN RIVER</u>					
Virgin at Virgin	23	Apr-June	— —	44	52
<u>UPPER COLORADO BASIN</u>					
Colorado nr Cisco, Utah	2900	Apr-Sept	— —	4059	71
Flaming Gorge Inflow (17)	840	Apr-Sept	— —	1471	57
Green at Green River, Utah (17)	1700	Apr-Sept	— —	3540	48
San Juan nr Bluff, Utah (18)	850	Apr-Sept	— —	1226	69
Colorado nr Grand Canyon (17-18)	4600	Apr-July	— —	8056	57
	5550	Apr-Sept	— —	9155	61

(16) Observed flow plus change in storage in Scofield Reservoir. (17) Observed flow plus change in storage in Flaming Gorge and Big Sandy Reservoirs. (18) Observed flow plus change in storage in Navajo Reservoir.

GENERAL FOOTNOTES

(a) Runoff forecasts are based principally on mountain snow cover and on the assumption that precipitation and temperature will be near average from the present time to the end of the forecast period. Appreciable deviations from normal of temperature and/or precipitation will correspondingly modify these forecasts. The discharge data is taken from preliminary records of the U.S. Geological Survey. (b) 1943-57, 15 year period. *Partly estimated.

RESERVOIR STORAGE (1,000 Ac. Ft.)

BASIN or STREAM	RESERVOIR	USABLE CAPACITY	MEASURED (FIRST OF MONTH)		
			THIS YEAR	LAST YEAR	AVERAGE ^a
GREAT BASIN					
<u>Bear River</u>	Bear Lake	1421.0	721.3	485.3	806.4
	Woodruff Narrows	26.5	- -	- -	- -
<u>Little Bear</u>	Hyrum	15.3	9.2	8.7	10.7
	Porcupine	11.3	0.6c	- -	- -
<u>Ogden</u>	Pineview	110.0	55.6	14.4	7.0
<u>Weber</u>	Rockport	60.9	33.2	11.8	- -
	Echo	73.9	28.4	16.1	27.0
	East Canyon	28.7	17.0c	3.5	15.2
<u>Provo</u>	Deer Creek	149.7	123.0	53.2	83.1
<u>Spanish Fork</u>	Strawberry	270.0	48.7	17.7	131.9
<u>Utah Lake</u>	Utah Lake (b)	1149.0	244.5	199.7	568.2
<u>Sevier River</u>	Otter Creek	52.5	17.4	14.9	27.5
	Piute	74.0	25.0	19.5	38.0
	Sevier Bridge	236.1	44.1	32.7	134.6
<u>Beaver River</u>	Rocky Ford	23.3	6.9	6.5	13.6
COLORADO RIVER DRAINAGE					
<u>Lake Fork</u>	Moon Lake	35.8	14.6	22.6	12.4
<u>Price River</u>	Scofield	65.8	16.7	1.6	15.2
<u>Green</u>	Flaming Gorge	3789.0*	53.6*	- -	- -
<u>San Juan</u>	Navajo	1709.0*	76.3*	- -	- -
<u>Colorado</u>	Lake Powell	28040.0*	35.5*	- -	- -

All data contained in this table supplied by the U.S. Geological Survey

* - Total capacity reported

PRECIPITATION DATA (Inches)

DRAINAGE BASIN AND RAIN GAGE LOCATION	ELEVATION	CURRENT INFORMATION			FROM APPROX. 10/1 TO DATE		
		DATE OF READING	MONTH'S PRECIPITATION	1943-57 AVERAGE	THIS YEAR	1943-57 AVERAGE	PERCENT OF AVERAGE
				a		a	
GREAT BASIN DRAINAGE							
UPPER BEAR RIVER (Above Harer, Idaho)							
Chalk Creek #2 *	8000	1/28	- -	- -	4.35	11.00	40
Chalk Creek #3 *	7500	1/28	- -	- -	4.25	- -	- -
Monte Cristo #2	8960	1/29	- -	- -	6.98	- -	- -
Salt River Summit	7900	1/30	2.30	3.60	5.95	12.90	46
Trial Lake *	9800	1/30	3.68	4.75	8.25	16.15	51
LOWER BEAR RIVER (Below Harer, Idaho)							
Dry Bread Pond	8230	1/29	2.90	- -	6.29	15.50	41
Garden City Summit	7600	2/1	8.47	- -	12.45	- -	- -
Klondike Narrows	7400	1/28	2.68	5.00	8.00	17.50	46
Monte Cristo #2	8960	1/29	- -	- -	6.98	- -	- -
Tony Grove R. S. (SCS)	6250	2/1	9.01	- -	12.26	- -	- -
Willow Flat	6100	1/30	3.15	5.10	6.60	17.50	38
OGDEN RIVER							
Ben Lomond (lower)	5850	1/30	3.75	4.75	6.41	17.80	36
Ben Lomond Trail	6000	1/30	3.58	- -	6.43	- -	- -
Causey Dam	5500	2/1	- -	- -	6.40	- -	- -
Dry Bread Pond	8230	1/29	2.90	- -	6.29	15.50	41
Monte Cristo #2 *	8960	1/29	- -	- -	6.98	- -	- -
Sagebrush Flat	6300	2/1	5.75	- -	8.64	10.15	85
WEBER RIVER							
Chalk Creek #2	8000	1/28	- -	- -	4.35	11.00	40
Chalk Creek #3	7500	1/28	- -	- -	4.25	- -	- -
Farmington Guard Sta. (1)	7500	2/1	6.17	5.43a	10.50	20.57a	51
Farmington Rice (1)	7000	2/1	4.79	5.00a	8.72	18.52a	47
Parley's Canyon Smt.	7500	1/28	2.07	3.00	5.57	15.00	37
Silver Lake (Brighton) *(2)	8725	1/31	6.60	5.60a	10.96	19.57a	56
Smith & Morehouse	7600	2/1	5.45	3.75	9.72	12.00	81
Trial Lake *	9800	1/30	3.68	4.75	8.25	16.15	51

(1) Data supplied by U.S. Forest Service

(2) Data supplied by U.S. Weather Bureau

* Adjacent Drainage

a All values estimated except those where symbol a occurs

PRECIPITATION DATA (Inches)

DRAINAGE BASIN AND RAIN GAGE LOCATION	ELEVATION	CURRENT INFORMATION			FROM APPROX. 10/1 TO DATE		
		DATE OF READING	MONTH'S PRECIPITATION	1943-57 AVERAGE	THIS YEAR	1943-57 AVERAGE	PERCENT OF AVERAGE

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PROVO RIVER & UTAH LAKE

Clear Creek Ridge #2	8000	2/2	- -	- -	8.60	10.90	79
Daniels-Strawberry Smt.	8000	2/1	7.88	2.05	11.27	11.10	102
East Portal Ridge	7800	1/28	1.35	- -	3.40	- -	- -
Payson R. S.	8050	1/28	1.85	3.40	5.90	12.50	47
Soapstone R. S.	7800	2/2	7.18	3.50	9.77	12.10	81
Strawberry Res.-East Portal	7606	1/28	0.65	1.30	2.41	6.65	36
Timpanogos Divide	8200	1/31	6.17	5.82a	9.02	18.87a	48
Trial Lake	9800	1/30	3.68	4.75	8.25	16.15	51

JORDAN RIVER & TOOELE VALLEY

Middle Canyon	7000	2/4	3.13	3.75	5.06	11.50	44
Mt. Dell Dam (2)	5500	1/31	1.89	2.15a	5.18	9.15a	57
Parley's Canyon Smt.	7500	1/28	2.07	3.00	5.57	15.00	37
Silver Lake(Brighton)(2)	8725	1/31	6.60	5.60a	10.96	19.57a	56

SEVIER RIVER ABOVE RICHFIELD

Big Flat *	10290	1/28	- -	- -	3.77	10.00	38
Duck Creek R. S.	8560	2/2	2.55	4.40	6.05	10.75	56
Webster Flat *	9200	1/30	0.87	4.50	5.54	11.20	49
Widtsoe-Escalante #3	9500	1/28	0.13	2.45	3.18	8.23	39
Widtsoe R. S.	7600	1/28	0.05	0.87	1.52	3.55	43

SEVIER RIVER BELOW RICHFIELD (Including San Pitch River)

Farnsworth Lake	9900	2/2	4.73	4.20	9.29	11.50	81
G.B.R.C. Headquarters (1)	8700	1/30	3.12	3.49a	6.53	11.76a	55
G.B.R.C. Meadows (1)	10000	1/30	3.86	3.36a	8.14	12.30a	66
G.B.R.C. Oaks (1)	7655	1/30	2.30	2.16	4.64	8.24	56
Gooseberry R. S. (1)	7800	2/2	3.11	2.51	6.64	8.10	82
Gooseberry Reservoir *	8700	2/1	7.47	3.80	9.60	11.60	83
Mammoth R. S. #2 *	8600	2/1	7.33	3.80	9.45	11.55	82

BEAVER RIVER

Beaver Canyon P.H. (2)	7275	1/31	0.49	2.26a	2.22	6.48a	34
Big Flat	10290	1/28	- -	- -	3.77	10.00	38

COAL CREEK

Webster Flat *	9200	1/30	0.87	4.50	5.54	11.20	49
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(1) Data supplied by U. S. Forest Service

(2) Data supplied by U. S. Weather Bureau

* Adjacent Drainage

a All values estimated except those where symbol a occurs

PRECIPITATION DATA (Inches)

DRAINAGE BASIN AND RAIN GAGE LOCATION	ELEVATION	CURRENT INFORMATION			FROM APPROX. 10/1 TO DATE		
		DATE OF READING	MONTH'S PRECIPITATION	1943 - 57 AVERAGE	THIS YEAR	1943 - 57 AVERAGE	PERCENT OF AVERAGE

COLORADO RIVER DRAINAGE

DUCHESNE RIVER

Daniels-Strawberry Smt. *	8000	2/1	7.88	2.05	11.27	11.10	102
East Portal Ridge *	7800	1/28	1.35	- -	3.40	- -	- -
Indian Canyon	9100	2/2	5.00	- -	7.50	- -	- -
Julius Park	9800	2/2	3.40	3.00	7.20	10.50	69
Lakefork Mountain	10500	1/28	- -	- -	3.09	9.85	31
Moon Lake	8150	1/30	0.30	2.03a	2.05	6.71a	31
Paradise Park	10100	2/2	3.01	3.25	6.99	11.00	64
Soapstone R.S. *	7800	2/2	7.18	3.50	9.77	12.10	81
Strawberry Res.-East Portal*	7606	1/28	0.65	1.30	2.41	6.65	36
Trial Lake *	9800	1/30	3.68	4.75	8.25	16.15	51

PRICE RIVER

Clear Creek Ridge #2*	8000	2/2	- -	- -	8.60	10.90	79
Gooseberry Reservoir	8700	2/1	7.47	3.80	9.60	11.60	83
Indian Canyon	9100	2/2	5.00	- -	7.50	- -	- -
Mammoth R. S. #2	8600	2/1	7.33	3.80	9.45	11.55	82
Mud Creek	8300	2/1	5.12	3.65	7.74	10.25	76

SAN RAFAEL RIVER

Buck Flat	9400	2/2	- -	- -	11.61	11.00	106
G.B.R.C. Meadows * (1)	10000	1/30	3.86	3.36a	8.14	12.30a	66
Gooseberry Reservoir *	8700	2/1	7.47	3.80	9.60	11.60	83
Red Pine Ridge	9400	1/29	- -	- -	4.46	11.35	39
Stuart R. S.	7950	1/30	2.00	- -	4.37	- -	- -

FREMONT & ESCALANTE RIVERS

Farnsworth Lake *	9900	2/2	4.73	4.20	9.29	11.50	81
Widtsoe-Escalante #3	9500	1/28	0.13	2.45	3.18	8.23	39

VIRGIN RIVER

Duck Creek R. S.	8560	2/2	2.55	4.40	6.05	10.75	56
Webster Flat	9200	1/30	0.87	4.50	5.54	11.20	49

(1) Data supplied by U. S. Forest Service

(2) Data supplied by U. S. Weather Bureau

* Adjacent Drainage

a All values estimated except those where symbol a occurs

SNOW

DRAINAGE BASIN and SNOW COURSE			CURRENT INFORMATION			PAST RECORD	
			DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	NO.	ELEVATION				LAST YEAR	AVERAGE ^a

GREAT BASIN DRAINAGE

UPPER BEAR RIVER
(Above Harer, Idaho)

Big Park	10G11	8700	1/25	31	4.7	18.5A	- -
CCC Camp x	10G7	7500	1/30	22	5.0	9.3	8.3
Monte Cristo R. S.	11H12	8960	1/29	35	7.4	19.3	17.0*
Piney LaBarge x	10G10	8820	1/29	25	6.2	18.9	13.0*
Salt River Summit x	10G8	7900	1/30	29	4.9	13.0	10.5*
Trial Lake x	10J8	9800	1/30	42	6.5	19.4	17.1*

LOWER BEAR RIVER
(Below Harer, Idaho)

Beaver Crk-Skunk Crk.	11H14	7150	1/29	19	2.4	10.8	8.5*
Christensen Ranch	11G11	5600	1/31	12	2.6	7.5	6.4*
Cub River R. S.	11G12	5400	1/30	18	3.2	7.4	5.9*
Dry Basin A	11G13	7900	No Report		- -	- -	- -
Dry Bread Pond x	11H13	8230	1/29	28	4.8	12.9	12.3*
Dry Creek Flat	12G4	6350	1/28	6	1.2	6.2	4.7*
Emigrant Summit	11G6	7700	1/30	30	5.4	16.6	- -
Garden City Summit	11H7	7600	1/28	20	4.2	15.2	12.5*
Horseshoe Basin A	11G14	8000	No Report		- -	- -	- -
Klondike Narrows	11H1	7400	1/28	18	3.8	15.4	12.3*
Liberty Spring	11G15	8420	No Report		26.4	- -	- -
Monte Cristo R.S.	11H12	8960	1/29	35	7.4	19.3	17.0*
Oxford Mountain	12G3	6800	1/28	7	1.5	6.3	6.3
Steep Hollow #1	11H27	8500	1/28	31	7.2	- -	- -
Steep Hollow #2	11H28	7700	1/28	25	5.7	20.4	- -
Strawberry Creek	11G9	5800	1/31	13	3.4	9.2	7.7*
Strawberry Mink Divide	11G10	6800	1/31	27	7.1	16.2	13.6*
Tony Grove R. S.	11H3	6250	1/28	13	2.4	9.8	8.0*
Willow Flat	11G4	6100	1/30	23	4.2	10.7	13.5*

OGDEN RIVER

Beaver Crk-Skunk Crk.	11H14	7150	1/29	19	2.4	10.8	8.5*
Ben Lomond Peak	11H8	8000	1/30	38	9.1	- -	21.0*
Ben Lomond(lower)	11H9	5850	1/30	21	3.5	15.9	9.0*
Ben Lomond Trail	11H30	6000	1/30	23	3.4	New Course	
Cutler Creek	11H29	6780	1/30	32	6.7	New Course	
Dry Bread Pond	11H13	8230	1/29	28	4.8	12.9	12.3*
Monte Cristo R. S.	11H12	8960	1/29	35	7.4	19.3	17.0*
Sagebrush Flat	11H15	6300	1/29	12	1.2	5.3	4.2*

(a) 1943-57, 15 year period. (b) Average of all past record. (x) Adjacent drainage. (A) Aerial observation: Water content estimated. * Estimated 1943-57, 15 year average.

SNOW

DRAINAGE BASIN and SNOW COURSE			CURRENT INFORMATION			PAST RECORD	
			DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	NO.	ELEVATION				LAST YEAR	AVERAGE ^a
<u>WEBER RIVER</u>							
Beaver Creek R. S.	11J24	7500	1/30	16	2.1	8.8	6.2*
Chalk Creek #2	11J2	8000	1/28	20	3.7	9.4	9.5*
Chalk Creek #3	11J3	7500	1/28	12	2.1	6.3	5.1*
Farmington Canyon(lower)	11J12	6950	2/1	19	5.9	17.6	14.4*
Farmington Canyon(upper)	11J11	8000	2/1	34	8.4	20.7	16.4*
Lamb's Canyon x	11J14	6600	1/28	16	4.0	9.0	10.0*
Parley's Canyon Smt.	11J15	7500	1/28	22	4.6	12.1	11.5*
Silver Lake x	11J16	8725	1/28	23	5.8	18.3	16.8
Smith & Morehouse	11J4	7600	2/1	17	5.7	10.0	8.6*
Trial Lake x	10J8	9800	1/30	42	6.5	19.4	17.1*
<u>PROVO RIVER & UTAH LAKE</u>							
Camp Altamont	11J20	7300	1/29	8	0.6	14.1	12.9
Clear Creek Ridge #2	11K22	8000	2/2	17	3.3	9.3	8.5*
Clear Creek Ridge #3	11K23	6600	2/2	4	0.9	6.5	5.2*
Daniels-Strawberry Smt.	11J23	8000	2/1	25	7.6	12.6	10.5
East Portal	11J7	7560	1/28	7	1.2	8.2	8.7
Payson R. S.	11K1	8050	1/28	19	4.6	12.8	11.0*
Rock Bridge	11K2	6750	1/28	17	3.9	9.3	7.7*
Soapstone R. S.	11J25	7800	2/2	28	6.5	9.8	8.8*
South Fork R. S.	11J19	6100	1/29	6	0.6	6.7	5.9*
Strawberry Divide	11J8	8000	1/28	12	2.0	13.3	14.5
Timpanogos Cave Camp	11J18	5500	1/29	3	0.4	1.0	3.6*
Timpanogos Divide	11J21	8140	1/31	38	7.2	18.6	19.4
Trial Lake	10J8	9800	1/30	42	6.5	19.4	17.1*
<u>JORDAN RIVER & TOOELE VALLEY</u>							
Lamb's Canyon	11J14	6600	1/28	16	4.0	9.0	10.0*
Middle Canyon	12J3	7000	2/4	7	2.4	8.7	8.3*
Mill D South Fork	11J10	7400	1/28	23	5.6	14.7	12.5*
Parley's Canyon Smt. x	11J15	7500	1/28	22	4.6	12.1	11.5*
Silver Lake	11J16	8725	1/28	23	5.8	18.3	16.8
<u>UPPER SEVIER RIVER</u> <u>(South of Richfield, Utah)</u>							
Big Flat x	12L7	10290	1/28	14	2.9	8.5	11.7*
Bryce Canyon	12M8	8000	1/29	6	0.9	3.5	3.3*
Duck Creek R. S.	12M4	8560	1/29	3	0.5	10.3	9.5*
Harris Flat R. S.	12M5	7700	1/29	2	0.4	7.5	6.0*
Long Valley Junction x	12M6	7500	1/29	Trace		4.9	4.2*
Midway Valley	12M2	9800	1/30	14	2.4	11.6	14.5*
Widtsoe-Escalante Smt.	11M1	9500	1/28	7	1.1	3.8	5.5*
Widtsoe-Escalante #2	11M2	9500	1/28	10	1.8	5.5	6.6*
Widtsoe-Escalante #3	11M3	9500	1/28	14	3.4	5.4	- -

(a) 1943-57, 15 year period. (b) Average of all past record. (x) Adjacent drainage. (A) Aerial observation: Water content estimated. * Estimated 1943-57, 15 year average.

SNOW

DRAINAGE BASIN and SNOW COURSE			CURRENT INFORMATION			PAST RECORD	
			DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	NO.	ELEVATION				LAST YEAR	AVERAGE ^a

LOWER SEVIER RIVER (Including San Pitch River)

Farnsworth Lake	11L1	9900	2/2	32	8.0	10.7	11.3*
G.B.R.C. Headquarters	11K11	8700	1/30	24	4.6	13.3	9.1*
G.B.R.C. Meadows	11K10	10000	1/30	34	7.6	19.1	15.6*
Gooseberry R. S.	11L2	8400	2/2	19	5.0	7.4	7.0*
Gooseberry Reservoir x	11K4	8700	1/28	9	1.6	15.0	11.5*
Mammoth R.S.-Cotnwd Crk.	11K3	8800	2/1	30	9.4	16.6	12.1*
Middle Fork	11K34	9600		No Report		7.0	- -
Thistle Flat	11K35	8500		No Report		4.6	9.0*

BEAVER RIVER

Big Flat	12L7	10290	1/28	14	2.9	8.5	11.7*
Merchant's Valley	12L9	8200	1/28	5	0.5	5.0	6.5*
Otter Lake	12L8	9300	1/28	12	2.0	7.8	9.2*

COAL CREEK

Midway Valley x	12M2	9800	1/30	14	2.4	11.6	14.5*
Urie Flat	12M10	8450	1/30	4	0.6	7.1	5.0*
Webster Flat	12M3	9200	1/30	11	2.1	10.4	11.2*

COLORADO RIVER DRAINAGE

UPPER GREEN RIVER IN UTAH (Tributaries above Flaming Gorge)

Buck Pasture A	10J23	9700	1/28	See Note	- -	- -
Henry's Fork A	10J24	10200	1/28	See Note	- -	- -
Steel Creek Park A	10J20	9900	1/28	See Note	- -	- -

DUCHESNE RIVER

Ashley Twin Lakes A	9J11	10500	1/28	See Note	-	-	-	-
Atwood Basin A	10J27	10250	1/28	See Note	-	-	-	-
Chepeta-Whiterocks Lakes A	9J9	10300	1/28	See Note	-	-	-	-
Daniels-Strawberry Smt.x	11J23	8000	2/1	25	7.6	12.6	10.5	
East Portal x	11J7	7560	1/28	7	1.2	8.2	8.7	
Five Point Lake A	10J26	11000	1/28	See Note		12.8A	-	-
Indian Canyon	10K1	9100	2/2	27	5.2	9.3	8.6*	
Julius Park	9J6	9800	2/2	24	4.5	11.4	-	-
Lakefork Basin A	10J25	11100	1/28	See Note		-	-	-
Lakefork Mountain	10J10	10500	1/28	3	0.4	8.0	8.1*	
Lakefork Mountain #2	10J11	8900	1/28	0	0.0	6.6	6.0*	
Lakefork Mountain #3	10J12	8100	1/28	1	0.2	7.8	4.8*	

Note: Snow less than one foot, too shallow for accurate reading from airplane.

(a) 1943-57, 15 year period. (b) Average of all past record. (x) Adjacent drainage. (A) Aerial observation; Water content estimated. * Estimated 1943-57, 15 year average.

SNOW

DRAINAGE BASIN and SNOW COURSE			CURRENT INFORMATION			PAST RECORD	
			DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	NO.	ELEVATION				LAST YEAR	AVERAGE ^a

DUCHESNE RIVER - Continued

Mosby Mountain	9J5	9500	2/2	24	4.2	8.6	7.7*
Paradise Park	9J3	10100	2/2	21	3.3	11.1	8.7*
Reynolds Park A	9J10	10400	1/28	See Note		New Marker	
Soapstone R. S. x	11J25	7800	2/2	28	6.5	9.8	8.8*
Strawberry Divide x	11J8	8000	1/28	12	2.0	13.3	14.5
Trial Lake x	10J8	9800	1/30	42	6.5	19.4	17.1*
Windy Park A	9J12	9400	1/28	See Note		- -	- -

PRICE RIVER

Dry Valley Divide	11K8	7800	1/29	10	1.2	9.3	8.0*
Gooseberry Reservoir	11K4	8700	1/28	9	1.6	15.0	11.5*
Indian Canyon x	10K1	9100	2/2	27	5.2	9.3	8.6*
Mammoth R.S.-Ctnwd.Crk. x	11K3	8800	2/1	30	9.4	16.6	12.1*
Mud Creek #2	11K33	8300	1/29	16	2.1	10.0	8.3*
Jones Ranch	11K7	7600	1/29	6	0.6	5.9	5.5*

SAN RAFAEL RIVER

Buck Flat	11K31	9400	2/2	32	9.4	12.8	10.0*
Gooseberry Reservoir	11K4	8700	1/28	9	1.6	15.0	11.5*
Mammoth R.S.-Ctnwd Crk. x	11K3	8800	2/1	30	9.4	16.6	12.1*
Red Pine Ridge	11K28	9400	1/29	17	2.4	13.2	10.9*
Rush Pond	11K38	9800	2/2	33	7.7	11.8	9.2*
Upper Joe's Valley	11K29	8800	1/29	13	1.4	7.9	6.0*
Wrigley Creek	11K32	9000	2/2	18	4.6	8.9	6.8*

FREMONT RIVER

Farnsworth Lake x	11L1	9900	2/2	32	8.0	10.7	11.3*
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ESCALANTE RIVER

Widtsoe-Escalante Smt.	11M1	9500	1/28	7	1.1	3.8	5.5
Widtsoe-Escalante #2	11M2	9500	1/28	10	1.8	5.5	6.6*
Widtsoe-Escalante #3	11M3	9500	1/28	14	3.4	5.4	- -

VIRGIN RIVER

Duck Creek R. S.	12M4	8560	1/29	3	0.5	10.3	9.5*
Harris Flat R. S.	12M5	7700	1/29	2	0.4	7.5	6.0*
Long Valley Junction	12M6	7500	1/29	Trace		4.9	4.2*
Midway Valley x	12M2	9800	1/30	14	2.4	11.6	14.5*
Webster Flat	12M3	9200	1/30	11	2.1	10.4	11.2*

Note: Snow less than one foot, too shallow for accurate reading from airplane.

Agencies Cooperating in Utah Snow Surveys

U. S. GOVERNMENT AGENCIES

U. S. Department of Agriculture
Soil Conservation Service
Forest Service
U. S. Department of Commerce
Weather Bureau
U. S. Department of Interior
Bureau of Reclamation
Geological Survey
National Park Service

STATE AGENCIES

Utah Agricultural Experiment Station
Utah Fish and Game Department
Utah State Engineer
Little Bear River Commissioner
Price River Commissioner
Provo River Commissioner
Sevier River Commissioner
Spanish Fork River Commissioner
Utah Water and Power Board

MUNICIPALITIES

Manti
Salt Lake City

ORGANIZED PUBLIC AGENCIES

Beaver River Water Users Association
Board of Canal Presidents - Jordan River
Emery Canal and Reservoir Company
Moon Lake Water Users Association
Ogden River Water Users Association
Provo River Water Users Association
Strawberry Water Users Association
Sevier River Water Users Association

PRIVATE AGENCIES

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